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GOVERNMENT OF INDIA

MINISTRY OF TOURISM AND CIVIL AVIATION

(COMMISSION OF RAILWAY SAFETY)

RAILWAY ACCIDENT INVESTIGATION

REPORT

on

COLLISION

Between

201 Up Badarpur-Lumding Passenger train

and

the Down Trial Special at Km. 128.91

between

Mailongdisa and Harangajao Stations

N. F. Railway,

on

29th April, 1969.

SUMMARY

1. Date	29-4-1969
2. Time	16·40 hrs.
3. Railway	Northeast Frontier Railway.
4. Gauge	Metre.
5. Location	At Km. 128·91 between Harangajao and Mailongdisa stations.
6. Nature of Accident	Collision.
7. Trains involved	(*i*) No. 201 Up Badarpur-Lumding Passenger. (*ii*) Down Trial Special.
8. Consisting of	(*i*) 10 Coaches and a banking engine. (*ii*) Inspection Carriage.
9. Engine No.	MWGX32082 and banking engine No. Y.G. 4098.
10. Estimated Speed	(*i*) 15 Km. P.H. (*ii*) 50 to 60 Km. P.H.
11. System of Operation	Absolute Block System.
12. Number of Tracks	Single Line.
13. Gradient	1 in 37 falling towards Harangajao.
14. Alignment	10° Curve.
15. Weather	Fair.
16. Visibility	Good.
17. Casualties	Killed—3 Injured : Grievous—6 Simple—6.
18. Cause	Down Trial Special rolling down and entering Block Section already occupied by the Passenger train on proper line clear.
19. Persons held responsible	Driver of Down Trial Special.

GOVERNMENT OF INDIA
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(COMMISSION OF RAILWAY SAFETY)

To

The Secretary to the Government of India,
Ministry of Tourism & Civil Aviation,
New Delhi.

Through : The Commissioner of Railway Safety, *Lucknow*.

Sir,

In accordance with Rule 10 of Railway Board's Notification No. 59-TTV/42/1 dated 11-4-66, I have the honour to submit herewith the Report on my Inquiry into the collision between 201 Up Badarpur-Lumding Passenger train and the Down Trial Special at Km. 128·91 between Mailongdisa and Harangajao stations of Northeast Frontier Railway which took place at 16·40 Hrs. on 29th April 1969.

The Accident

2. On 29-4-69, 201 Up Passenger was detained at Harangajao Station for about 5 Hrs. on account of a series of accidents between Harangajao and Mailongdisa viz. the derailment of No. 838 Goods train which entered catch siding at Harangajao and two partings of 831 Up between Mailongdisa and Harangajao. No 201 Up passenger train left Harangajao at 16·10 Hrs. (6 hours and 45 minutes late) on proper line clear with token No. 11 and was approaching Mailongdisa station, the reception signals of which had already been taken off for this train. Down Trial Special consisting of a Diesel Loco. No. YDM/4-A 6173 and an inspection carriage No. ERB 857 was waiting on line No. 2 at Mailongdisa station for the arrival of the Up Passenger train. This train started rolling down from the station (situated on a steep down gradient of 1 in 37) and entered the Block Section after bursting the trailing points, there being no slip siding provided at the station. The Driver and the Assistant Driver who were sitting on the station platform, after noticing their train having started rolling, ran and jumped into the Diesel loco cab. The Driver however, in spite of making efforts to start the engine of his locomotive could not do so and the train continued to gain momentum finally colliding head-on with the Up Passenger train at Km. 128·91 between Harangajao and Mailongdisa.

3. The collision resulted in the derailment of the leading engine of 201 Up, the front TLR 2395, two front wheels of the Diesel engine No. YDM/4-A 6473 and the front pair of wheels of ERB 857. The coal bunker unit of the engine of 201 Up which was leading telescoped into the cab of the boiler unit. The TLR underframe got damaged and rested on the water tank unit after getting lifted.

Casualties

4. As a result of this accident 3 persons were killed and 33 injured. The injuries of 6 were grievous, while 6 had simple injuries and 21 only trivial.

The Inquiry

5. (*a*) The site of the accident was inspected in company with the Divisional Superintendent, Lumding and the Transportation Superintendent (Safety), Gauhati in the forenoon of 2nd May 1969. The inquiry was conducted at Lower Haflong on the 2nd, 4th and

5th May 1969 and at Badarpur on 3rd May. Due to the sad demise of the President of India, taking of further evidence at Badarpur was stopped after the news was received.

(*b*) I also visited the Railway Hospital at Badarpur on the 3rd May 1969 and saw the injured to satisfy myself that they were being looked after properly.

(*c*) The damaged Diesel Locomotive was brought to Siliguri and I inspected it in detail along with Divisional Mechanical Engineer (Diesel), Siliguri on the afternoon of 12th May.

6. Shri G. F. Velloze, Transportation Superintendent, Safety, Gauhati and Shri J. M. Parikh, Divisional Superintendent, Lumding were present throughout the inquiry. Shri N. N. Choudhury, Dy. Chief Mechanical Engineer (R.L.) and some of the Divisional Officers assisted during the investigations as and when required.

7. The Dy. Commissioner, Diphu and concerned Police authorities were duly advised of the inquiry and were represented as follows—

1. Shri D. B. Chhettry, Special Magistrate, Haflong.
2. Shri G. B. Chakraborty, Officer-in-Charge, Govt. Railway Police, Badarpur.
3. Shri Mazumdar, Inspector of Railway Police, Badarpur.

8. The evidence of 26 witnesses was recorded. It was learnt that one Dr. T. J. Joseph was travelling on the train and could throw some light on the accident. A letter was, therefore, addressed to him requesting him for a statement of facts connected with the accident but so far, no reply has been received from him.

NOTE: 1. The words "right' and 'left', 'front' and 'rear' etc. used in this report are with reference to the directions of travel of the trains.

2. The Kilometrage of the various places mentioned in the Report are reckoned from Lumding Station and are as given below—

		K.M.
(*i*)	Badarpur	185·00
(*ii*)	Ditokcherra	143·00
(*iii*)	Harangajao	136·00
(*iv*)	Site of accident	128·91
(*v*)	Mailongdisa	128·00
(*vi*)	Langrangajao	123·00
(*vii*)	Jatinga	118·00
(*viii*)	Haflong	115·00

3. No. 201 Up wherever used means passenger train No. 201 Up Badarpur—Lumding Passenger and the Down Trial Special means the Diesel locomotive No. 6173 YDM/4A attached with the Inspection Carriage No. ERB 857. The trial special was to run for carrying out certain speed trials on the hill section.

The trains

9. No 201 Up had 10 coaches. It was worked by Train Engine No. MWGX-32082 and banked by YG 4098. The approximate length and weight of the train inclusive of the engine were 220·41 metres and 561·50 tonnes respectively. The composition and marshalling order of the train were as follows—

1. Engine No. MWGX 32082
2. Coach No. TLR 2395—Third Luggage & Brake (Wooden body)

3. Coach No. ZFT 542—First, & Third with ladies (Steel body)
4. Coach No. FST 438—First, Second & Third Class (Wooden body)
5. Coach No. FST 443 First, Second & Third Class (Wooden body)
6. Coach No. GST 767—Second & Third Class (Steel body)
7. Coach No. GT 1688—Third Class (Steel body)
8. Coach No. GT 1849—Third Class (Steel body)
9. Coach No. TPP 2635—Third Class & Postal van (Wooden body)
10. Coach No. GTY 1108—Third with Ladies (Steel body)
11. Coach No. TLR 2316—Third, Luggage & Brake (Wooden body)
12. Engine No. YG 4098.

NOTE : G denotes self-generating equipment.

10. The passenger train was fully vacuum braked, the vacuum in the leading engine being 50 cms. while that in the brake van and banking engine being 45 cms. The leading engine was fitted with speedometer but had no speed recorder while the banking engine was not fitted with any speedometer.

11. (*a*) The Down Trial Special consisted of Diesel Locomotive No. YDM/4-A 6173 and Inspection Carriage No. ERB 857. The brakes of the Loco were functioning efficiently while it worked 831 Up Goods train Ex. Badarpur to Harangajao and it was jointly certified by Driver, Guard and TXR to have 50 cms. of vacuum. The Diesel Engine had no speedometer on it but was fitted with a vigilance control device which was out of commission.

(*b*) The locomotive was received by the Railway in new condition on 28th January 1968 and was put into service on 6th of February. It had done 1,06,683 Kms. till the time of accident. No P.O.H. or M.O.H., had been carried out to it nor was it done while its yearly inspection was last done on the 30th of December 1968. It was involved in a train accident while working 831 Up (Engine and Brake Van) on 4th April 1968, when it derailed between Mupa and Dihakho, due to the driver having exceeded the speed restriction of 8 Km. P. H. imposed on the section.

(*c*) It was learnt that the Alco Diesel Locomotives received in 1962 and 1964 had been fitted with Hasler-Telec-speedometer-cum-recorders fitted by the manufacturers themselves. The YDM-4A locomotives built in Canada and received by the Railway in 1968 however had no speedometers fitted as the order of supply did not include this requirement in order to save foreign exchange. According to the instructions of the R.D.S.O., these locomotives were to be fitted with indigenous VDO speedometers and gear boxes. The final design of the gear boxes has only recently been received from the R.D.S.O. and manufacture is being arranged at Dibrugarh workshops after the gears required for the purpose along with the ball bearings, oil seals etc. are procured from the trade.

Passenger Occupation

12. (*a*) The total passenger accommodation and occupation of 201 Up was as follows—

	Seating capacity	Actual No.
1st Class	27	16
2nd Class	51	22
3rd Class	451	416
	529	454

(*b*) Down Trial Special did not carry any passengers.

Damage

13. *201 Up Passenger train*—(*a*) The leading engine viz. 32082 MWGX was badly damaged, the coal bunker unit having telescoped into the cab on the boiler frame damaging both frames and twisting them along with their pivots. The steam and water pipe connections of the engine were also damaged and broken. The water tank unit which was the trailing unit, was damaged to a lesser extent.

(*b*) TLR No. 2395 immediately behind the engine also sufferred considerable damage. Two compartments viz. A and B of the coach were badly damaged with the leading portion of the under-frame having twisted and bent and was resting on the rear-end-plate af the water-tank-unit of the locomotive. All the electrical and mechanical fittings were damaged; both buffers and draw bars, sole bars and longitudinal girders were bent and broken; coupling end head stock, hook end trolly and bolster were damaged; the bogie pivot and the brake gear of the hook-end-trolly were also damaged.

(*c*) ZFT No. 542, next to the TLR had its body displaced from the trolly while its wheels remained on the rails. The rest of the train in rear of the ZFT, however, was intact and suffered no damage.

14. (*a*) *Down Trial Special*—The head-stock plate of the Diesel loco, together with the frames and the guessets supporting the plate to the underframe and the underframe on the short-hood-end were considerably bent due to severe impact. Front Cattle guard, the Front Buffer with shank were badly damaged and broken. The air brake system, the vigilance control and the dynamic brake equipment located inside the nose compartment and cab room were also damaged. The traction generator foundation bracket welding was broken in the entire length and the engine block displaced from foundation about ½″ towards the nose compartment. In addition there were other items like the front cattle guard, front buffer with shank, front window glass of both Driver's and Assistant's sides, sun guards of both sides, wind shield wipers and head lights on both ends, Cables of traction motors etc. which were damaged to varying degrees.

(*b*) The body of ERB 857 including all fittings inside were badly damaged and the hook-end-head-stock as also buffer shank were broken; sole bars, axle guards and the brake gear were damaged and bent.

15. The total cost of damage assessed is as follows—

(*a*) *Rolling Stock:*

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		Rs. P.
(*i*)	Engine No. 32082 WMGX	5,06,550·00
(*ii*)	TLR No. 2395	1,07,000·00
(*iii*)	Inspection Carriage No. ERB-857	4,700·00
(*iv*)	Diesel Loco No. 6173 YDM-4A	40,000·00
		6,58,200·00
(*b*)	Permanent Way	600·00
(*c*)	Interlocking and Signalling gear	20·00
		6,58,820·00

The Relief

16. Immediately after the accident, the Guard of the train with travelling ticket examiners rendered first-aid. Assistant Medical Officer, Shri Bose and Shri G. C. Das, Medical Officer of State Dispensary from Harangajao arrived the site at 17·56 Hrs. and rendered medical aid.

17. The driver of No. 201 Up was unfortunately trapped in the locomotive. Attempts were made to extricate him from the wreckage and to save his life by all possible means but these proved unsuccessful and he expired at 22·00 Hrs.

18. Badarpur Medical Relief van left at 17·12 Hrs. but it was controlled at Ditokcherra as, due to the pressure from passengers of 201 Up to be taken away from the accident site, it was decided to bring them in the unaffected portion of the train to Harangajao, from where they were sent, to Badarpur and other stations as requested by them. There being no room at Harangajao for both the trains, 831 Up was first taken to Ditokcherra before allowing the Medical Relief Van. Further, all the medical attention had been given to the injured persons and no further action could be taken to help the driver unless he was extricated from the engine with the help of the Break Down train. The Break-Down train was, therefore, attached to the Medical Relief Van and the combined train left Ditokcherra at 20·40 Hrs. arriving Harangajao at 21·05 Hrs. The unaffected portion of 201 Up arrived Harangajao at 21·40 Hrs. and the injured persons were transferred into the Medical Van whereafter the Medical Van and the Break Down train were taken to the accident site arriving there at 22·40 Hrs. As the driver had already expired by that time, the train returned back to Badarpur reaching there at 04·30 Hrs. when all the injured needing hospitalisation were admitted in the Railway Hospital, Badarpur.

Restoration of Traffic

19. The rerailment of the coaches and the Engine was started at 4·15 Hrs. of 30-4-69 by Lumding Relief Train and at 05·20 Hrs. by Badarpur Relief Train and completed by 16·00 Hrs. the same day. The track was then linked and certified fit by 16.55 Hrs. The damaged steam engine was then taken to Mailongdisa station, pulled by both the relief trains at a slow speed reaching there at 17·45 Hrs. The block section having thus been cleared, through communications were restored at 17·55 Hrs.

The traffic remained suspended from the time of the accident upto the evening of 30-4-69. The two Down trains of 29-4-69 were controlled at Lower Haflong while both the Up and Down trains of 30-4-69 were cancelled. No diversion or transhipment of traffic was arranged. Goods trains were controlled suitably at various stations.

II. LOCAL CONDITIONS

The Site

20. (*a*) The accident took place at Km. 128·91 between Harangajao and Mailongdisa stations on the Lumding-Badarpur Hill section of the Northeast Frontier Railway. The site of the accident is on the bench of a hill situated on one side of the valley. The country side is hilly, covered with dense jungle and is situated in the Civil District of United Mikir and North Cacher Hills.

(*b*) The alignment is full of sharp curves and the track at the site is on a 10° curve and a steep gradient of 1 in 37.

(*c*) The point of collision is 264·56 metres ahead of the Up Outer signal of Mailongdisa station towards the station.

The Track

21. The track at the site of accident consists of 29·76 Kg. per metre (60 lbs. rails) 11·89 metres (39 feet) long, laid in the year 1944. Wooden Sal sleepers are provided to N+4 density and the track is fully ballasted with 2″ size broken stone ballast having a cushion of 6″. All 10° curves and sharper are provided with check rails on inner side. The section of the check rails is the same as of the running rails and these are spiked to every alternate sleeper. The rails have been fixed to the sleepers with 4 dog spikes at each seat.

System of Working

22. Lumding-Badarpur is a single line metre gauge section worked in accordance with the Absolute Block System of working by means of Neale's Token Instruments. The stations are equipped with Lower Quadrant signals and are key locked. The work of providing standard-I interlocking is in progress at a number of stations. Trains proceeding from Badarpur to Lumding are classified as Up trains while those from Lumding to Badarpur as Down trains.

Divisional Headquarters

23. The Railway is in the process of Divisionalisation. The Headquarters of the Division of which this section is a part, are at Lumding, while the Divisional Engineer and the Assistant Engineer are at present headquartered at Haflong and there is an Assistant Transportation Officer at Badarpur. The headquarters of the two controls are at Lumding and Badarpur Lumding Control having jurisdiction from Lumding to Harangajao and the Badarpur Control from Harangajao to Badarpur.

Mailongdisa Station

24. (*a*) Mailongdisa is a 'B' Class key-locked 2-line Block station situated between Langrangajao on the Lumding end and Harangajao on the Badarpur end. On account of the steep approach gradients on the Lumding end, a catch siding has been provided to protect against run-away trains from Langrangajao. The station itself is on a steep gradient varying between 1 in 43 and 1 in 37 but no slip siding has been provided to protect the block section on the descending end towards Harangajao.

(*b*) Shunting or detaching of the engine or vehicles is prohibited at this station. In case of emergency however, the engine can be detached by chaining and locking a sufficient number of vehicles on the train under the personal supervision of the Station Master on duty. The Station Master is then required to retain the keys of the locks in his personal possession. Attaching to the engine afterwards has to be done very cautiously and the Station Master is required to see that the locks and chains are removed and the hand brakes restored to normal before any movement is allowed.

(*c*) Outer and Home signals are provided at either end of the station. The Home signals are worked from a 4-lever frame situated near the station building and the levers are normally kept padlocked except when required for operation of signals. The keys are to remain in the personal custody of the Station Master on duty. The levers for the outer signals are situated near the Home signal posts and are operated by the Pointsman on duty after the relative Home Signal has been taken 'OFF'.

Permissible Speeds

25. Maximum permissible speed on the section between Mailongdisa and Harangajao is 20 Km. P.H. There was no speed restriction at the site of accident.

Weather and Visibility

26. The weather at the time of the accident was fair and the visibility was good. The view, however, was restricted due to sharp curves and hilly terrain.

III. SUMMARY OF EVIDENCE

27. *Shri S.K. Bhattacharjee, Relieving Assistant Station Master, Badarpur*, was on duty at Mailongdisa from 12·00 Hrs. to 21·00 Hrs. on 29-4-1969. When he took over, he found Down Trial Special standing on line No. 2. The officers viz. the Divisional Mechanical Egineer, the District Engineer, the Assistant Engineer and the Loco Foreman were in his office and only the attendant was in the carriage. At 12·50 Hrs. the train engine

No. 6173 YDM/4-A of 831 Up arrived without the train, having parted in the section. Down Trial Special engine No. 6047 YDM/4 was detached and despatched to the spot at 13·00 Hrs. to work 831 Up. Before doing so, the inspection carriage was properly secured by safety chains and gutas. Engine No. 6173 was then attached to the carriage on line No. 2. A few minutes later he asked the Driver to take his train some distance away as the engine was making noise and disturbing him in his work. The train was therefore removed about 20 or 25 yards away from his office.

> NOTE—None of the other witnesses, however, viz. two pointsmen, the saloon attendant, the Diesel Driver, or the Diesel Assistant, corroborated this fact but were on the contrary, positive that the engine continued to be at the same place where it was attached to the carriage.

At about 15·00 Hrs. the Driver came to his room to find out about 831 Up when he was told that the train was still in the section and he (the Driver) went away. At about 15·14 Hrs. he was informed that banking engine of 83 Up had parted and returned to Harangajao and another banking engine had been sent at 15·13 Hrs. He was further informed that 831 Up was being taken back to Harangajao on arrival of which, 201 Up would be started and the Down Trial Special would proceed to Harangajao only after that. He, therefore, went and advised the Driver of the Diesel Loco to shut down the engine as it would not be possible for him to proceed from the station before 18·00 Hrs., there being no path for his train. The Driver was also informed that if he shut down the engine the witness would protect the train. The Driver, however, said that as the engine was defective it would not be wise to shut it down as he might not be able to start again. He, therefore, did not press him hard, having no knowledge about the working of the engine. After 831 Up returned to Harangajao, line clear was granted for 201 Up at 15·57 Hrs. and the train left at 16·10 Hrs.

28. At about 16·30 Hrs. the Down Trial Special suddenly started rolling down and seeing this, the APWI's staff living near the station, started shouting loudly that the train was rolling away. He went out and saw the train actually moving and also saw the Driver and the Assistant Driver climbing into the engine. He thought that they would certainly be able to stop the train but he continued to stand near the signal lever, ready to put back the Reception signals, in case the engine and the carriage passed the fouldings mark. The train, however, could not be stopped even after some sleepers were placed on the rail by some gangmen. As the train passed the down water column and he could not see it, he put back the reception signals in an effort to stop 201 Up. The engine and the carriage continued to roll down and entered the Block Section at some good speed after bursting the Up facing points.

29. In reply to questions he stated that no engine whistle was heard by him after the driver and his Assistant entered the cab while the train was rolling down. He was not sure whether the hand brakes in the carriage had been applied at the time it was attached to the engine but he thought that they were in the applied position as his pointsman, Shri Ashutosh Deb told him that the hand brakes were working hard and could not be released whereafter he told the Pointsman not to worry as the hand brakes would be got released when the train was actually to start. He did not consider it necessary to protect the train from rolling down as the Diesel engine was in working condition.

NOTE—The Pointsman, however, denied having had any conversation with him in this connection and maintained this stand even after he was confronted with the witness.

30. *Shri Ashutosh Deb, Relieving Pointsman/Lumding* was on duty at Mailongdisa from 6-00 Hrs. to 18-00 Hrs. on 29-4-69. Actually he had no relief for the last 7 or 8 days prior to the date of the accident and had been performing double duty for all the 24 hours. The Down Trial Special consisting of a Diesel engine and a saloon was received on line No. 2. He and the other Pointsman Bahadur were instructed about receiving an Up train on line No. 1. After

a long time instead of the Up train, only a Diesel engine arrived as the train had parted. The carriage was chained and locked and the engine of the Down Trial Special was sent towards Harangajao to bring the parted portion of the train. Thereafter the other engine was attached to the carriage on line No. 2. Up facing points were then set for line No. 1 and signals taken off to receive the Up train. When the Goods train did not arrive for a long time, he was told that 201 Up Passenger would be received instead and line clear was given for that train and Reception signals taken 'off' for it.

31. The Driver and his Assistant of the Diesel engine were waiting at the station for a long time. As he was tying the token handed over to him by the Station Master for being given to the Up Passenger train, he heard some rumbling sound of a train and also some shouting. On coming out, he saw that it was the Down Trial Special rolling down from line No. 2 and the Driver and the Assistant Driver started running towards the engine. He saw some sleepers being thrown on to the track by some people for stopping the train but it could not be stopped and the speed continued to increase. Sometime later he could see it colliding with the Passenger train coming from the opposite direction.

32. On being asked whether the Down Trial Special was protected in any way from rolling down, he stated that when the engine was detached from the carriage it was protected but later after the second engine was attached to it, the chains and gutkas were removed and deposited in the Office and thus there was no protection when the train started rolling down. The engine was working when the loco was attached to the carriage but he had no idea if it had been shut down later as he was busy otherwise. He did not hear the engine horn being blown.

33. *Shri Man Bahadur, Pointsman, Mailongdisa* was on duty from 6-00 Hrs. to 18-00 Hrs. on 29-4-1969. He was doing double duty (round the clock) from 27-4-1969 as there was no relief available. Down Trial Special was received on line No. 2 after which arrangements were made to pass 831 Up over line No. 1. Accordingly, he took 'off' the Up Outer signal and was waiting near the lever of the signal. After a long time he saw that instead of the whole train only a diesel engine arrived. The saloon was chained and protected by gutkas and the Diesel engine along with the Officers went into the section to bring the parted portion of 831 Up. As instructed by the Assistant Station Master, he got the other engine attached to the saloon on line No. 2 after which the chains and gutkas were removed. He was then sent to take 'off' signals again for 831 Up. After a long waiting he saw that the signals were put back to danger and he, therefore, returned to the station where he was told that 831 Up had gone back to Harangajao and 201 Up Passenger was to be received on line No. 1. He saw the Driver of the Diesel loco in the A.S.M's Office and the Diesel engine assistant and the saloon attendant were sitting on the platform bench. No one was on the engine at that time but it was working giving a low sound. As he was waiting for the passenger train and watching it approaching nearer he suddenly heard a sound and looking at the Home signal, he saw that it had gone to danger. He also noticed the Diesel engine with the saloon coming towards him from the station side. The Driver was on the loco trying frantically to manipulate the control levers but there was no sound of the engine running and a little later, he saw it colliding with the Passenger train.

In reply to question he said that the speed of the engine did not slow down nor did he hear the driver blowing horn. When the signal went to danger, the engine of the passenger train just passed the outer signal. He could guess the location from the smoke of the train, knowing the location of the signal, even though he could not actually see the train.

34. *Shri Jagoo, Carriage Khalasi,* came to Mailongdisa from Lower Haflong on 29-4-69 along with the various officers in inspection carriage No. ERB 857 worked by a diesel engine. After about two hours' waiting, the Officers left for Harangajao with the diesel engine. Before the engine was detached, the carriage was properly protected by the Assistant Station Master,

Mailongdisa with wedges, chains and padlocks. The inspection carriage was on line No. 2. After the Officers had left he noticed that the other diesel engine entered line No. 2 and was attached to the inspection carriage. He could hear the sound of the running engine and he saw the Assistant Station Master taking off the wedges, chains and padlocks from the carriage and also release the hand brakes. Immediately he asked the Assistant Station Master as to why he had taken off the wedges, chains and padlocks and released the hand brakes secured by the Officers for protection of the carriage. Assistant Station Master told him that this was done as the diesel engine had already been attached to the carriage and no further protection was necessary. After about half an hour, when he was engaged inside the kitchen of the carriage he could not hear the sound of the running engine. As the Officers had not come for two to three hours he got down from the carriage and went to the platform. At that time also there was no sound of the running engine. While he was on the platform, he noticed that the diesel engine and the inspection carriage started rolling down towards Harangajao. He tried to run to get into the carriage but failed. He also saw two men running ahead of him who managed to get into the engine.

35. *Shri Punil Chandra Seal, Bridge Watchman* has his quarter by the side of line No. 2 at Mailongdisa station. He was working in the garden of his quarter at about 16-30 Hrs. on 29-4-69, when he noticed a diesel engine with one saloon attached to it rolling down on Line No. 2 towards Harangajao. There was no sound of the running of the engine. He also noticed that there was no driver or his assistant in the cab. Some people nearby started shouting that the engine was rolling down without control and he saw that Shri Binode Ram Das, Gangman and Shri Ludimya Das, Patrolman, standing nearby, picked up one line sleeper and placed it across the track to obstruct the movement of the engine. But the engine pushed the sleeper and continued rolling with greater speed. After the engine had rolled for about 12 rail lengths he noticed some one rush from behind and get into the cab of the engine. The engine, however continued to pick up speed and when it reached the Up facing points, there was a big sound resulting from the bursting of points. Meanwhile, he noticed a passenger train approaching Mailongdisa. He started running towards the facing points and heard a big sound of collision between the passenger train engine and the Diesel engine.

36. *Shri Binode Ram Das, Gangman, Mailongdisa* stated that on 29-4-69 at about 16-30 Hrs., standing near his quarter by the side of line No. 2, he noticed one engine along with saloon rolling down. Noticing that there was no one in the engine cab and that there was no sound of the engine running, he with the help of Shri Ludimya Das, Patrolman, picked up the line sleeper lying nearby and placed it across the track to arrest the movement of the engine but the engine pushed the sleeper and continued to roll down at a greater speed. He saw a passenger train coming towards Mailongdisa and meanwhile one man ran from behind the Diesel engine and climbed into the Driver's cab. The Diesel engine continued to roll and made a big sound when it burst the Up facing points. He along with many other staff started running behind the Diesel engine apprehending collision with the passenger train. The collision took place with a big sound. In reply to questions he said that there were many of the station staff running behind the engine but he saw only one man climb up into the cab.

37. *Shri Ludimya Das, Patrolman, Mailongdisa,* corroborated the statement of Binode Ram Das about rolling of the engine and the saloon but he did not see anyone getting up the engine.

38. *Shri Dhani Ram Tamboli, Bridge Chowkidar of Bridge No. 434,* was on duty from 6.00 Hrs. to 18.00 hrs. on 29-4-69. He saw a Diesel engine with a carriage attached to it coming down from Mailongdisa at great speed. He could not guess the speed but it was high as he could see the carriage in rear of the engine shaking violently and it was very much faster than the usual speed of other trains. At the same time he heard the sound of passenger train

coming from Harangajao side. He could not see the train as it was on a curve on the other side of the hill. He showed red signals to the Diesel train but it did not stop and collided with the passenger train ahead. As the Diesel train passed the bridge he saw someone hurriedly manipulating the engine controls in a confused manner. He did not know whether he was the Driver or the Assistant.

39. *Shri S. R. Singh, Assistant Station Master, Mailongdisa,* was officiating as Station Master on 29-4-69. He was on duty from 6.00 hrs. to 12.00 hrs. At 10.40 Hrs. 831 Up through Goods left Harangajao but had not cleared the section upto 12.30 Hrs. when he handed over charge. Shortly after, he heard a Diesel engine approaching and at the station he learnt that the train engine of 831 Up reached after parting in the block section. The engine of the Down Trial Special was then sent to bring 831 Up and clear the section. The ERB coach was duly secured with safety chains, padlocks and gutkas before detaching the engine. He then went to finish his lunch and when he returned back at 14.00 hrs. there was still no trace of the train. There being no other railway staff available and the control phone being out, he along with substitute porter Shri Kashi Nath Goala started on foot to find out about the train. On the way he got a push trolley of AIOW/Jatinga and he proceeded on it asking the porter to go back. On reaching the site he found that the banking engine of 831 Up had also parted and had been sent to Harangajao to arrange for a relief engine. He remained there till the relief engine reached the site, and accompanied the train to Harangajao reaching there at 16.00 Hrs. 201 Up was ready to start and he entrained it leaving at 16.10 Hrs. He travelled in the second class compartment and was sitting near the door on account of the heavy rush in the train. All of a sudden, as the train was passing the Outer signal of Mailongdisa he saw the signal in the 'On' position although the train was going with normal speed. He was surprised and stood near the door catching the handle of the compartment to observe the position of the Home signal. Due to the sharp curve he could not see the Home signal and at the same time he got a jerk and was pushed out of the compartment. As he stood up, he felt pain in his right shoulder and saw that the train engine and one bogie of the train had been smashed and there was no way to go ahead.

He then returned back to the station with the help of a passenger where he was attended to. On the way he saw the collision and the burst points. As far as he remembered he was travelling in the third bogie from the engine.

40. *Shri M. L. Roy, Diesel Driver,* worked 831 Up Goods train from Badarpur starting at 5.50 Hrs. He stopped at Harangajao for crossing 838 Down. No difficulty was felt by him in stopping the train at Harangajao. After a halt of about three hours when he started from Harangajao at 10.40 Hrs. he found the load slipping backward. He stopped the train and called for the Guard and the Driver of the banking engine. After examining the whole train he started again but on going a little further he found it difficult to haul the load and suggested to the Guard that the train might be taken back to Harangajao. The Guard said that perhaps he was not able to haul it on account of the curve and it would be advisable to return back to a straight portion and try to pull it again. The train was thus brought to the straight portion and started again. His engine, however, parted on account of the buffer shank breaking. He then took his engine to Mailongdisa and arrived there at 12.55 Hrs. He was received on line No. 1 and the officers there told him that they were taking the other diesel loco to haul 831 Up. After the Officers and the other engine left, he got his engine attached to the saloon. He did not know at what stage the chains and gutkas fitted to the saloon were removed. The hand brake of the saloon was personally checked by him and seen that it was properly applied. About 15 to 20 minutes before his train started rolling down he was told by the Station Master that he would have to work the train after 201 Up was received. While he was in front of the Assistant Station Master's office he noticed that his train started rolling down and he immediately went into his loco and started the engine as he had kept it in shut down condition. The brakes of his loco did not function as it takes about 4 to 5 minutes for them

to work after the starting of the engine. The train picked up speed upto about 15 to 20 Km. P.H. but started slowing down and was 7 to 8 Km. P.H. at the time of collision. Immediately after passing and bursting the up facing points, he noticed the engine of 201 Up and soon after the collision occurred. He did not have any difficulty in applying brakes on run from Badarpur to Mailongdisa. He denied that the Assistant Station Master asked him to remove his engine from front of station but confirmed that he did tell him that he should shut down the engine to which he had replied that he could not do so on account of the steep gradient section. The Assistant Station Master on this had mentioned that there was an order of the C.O.P.S. that if an engine was kept at a station for more than three hours, it should be shut down and he should do so as the train was properly protected by chains and gutkas. Accordingly, he shut off the engine. He accepted that it was his duty to check up personally that the hand brakes had been applied by his diesel assistant but he did not do so.

41. *Shri Sukhendu Bikash Ghose, Diesel Assistant,* worked on Engine No. 6173 YDM/4A of 831 Up Goods train on 29-4-69. He left Badarpur at about 5 A.M. and the train was given run through upto Harangajao where it was held up to cross a Down Goods train. After leaving Harangajao station the train stopped at Km. 133 due to banking engine trouble. While starting, his engine parted from the train due to breakage of the engine buffer shank. The driver then gave a memo to the guard and after handing over the line clear to him they left for Mailongdisa where they were received on line No. 1. After sometime the engine was shunted to line No. 2 and attached to the saloon. About two to three hours later at about 16.00 Hrs. the engine and the saloon started rolling down towards Harangajao and started picking up speed, entering the Block Section after bursting the points and later collided with 201 Up passenger.

On being questioned he stated that both the Driver as well as he had gone to the Assistant Station Master while the engine was standing on line No. 2. He had no knowledge when the chain and gutkas fitted with the saloon had been removed. His engine was in the shut down condition when the train started rolling down but the Driver re-started it after entering the cab. The engine was shut down at about 15.00 hrs. and he told the Driver not to shut it down without giving a memo to the Station Master but the latter did not listen to him and stated that there were orders to shut the engine when it had to stop at the station for more than three hours. He did not remember if the station master came to the engine and asked the Driver to shut it down. According to him the Driver was continually blowing the horn after entering the cab.

IV. INSPECTIONS, OBSERVATIONS AND TESTS

Inspection of the site

42. I inspected in the forenoon of 2nd May 1969 the site of the accident and also the damage to the Diesel locomotive, the Inspection Carriage and the Steam Engine of the Passenger train. The condition of the diesel loco and the various controls in it were examined to determine various possibilities which could have led to the rolling down of the Down Trial Special. It was observed that the position of the hand brake on the loco is in a place which is rather not easily accessible and can only be applied after the door of the engine compartment is opened specially for the purpose. It was also noted that Mailongdisa station is on a steep gradient varying between 1 in 37 and 1 in 43 falling towards Harangajao and no slip siding has been provided to check the entry of run away vehicles from the station, into the block section.

43. The diesel locomotive involved in the collision was sent to Siliguri for a further detailed examination and according to the report of the District Mechanical Engineer (Diesel) there, no defect whatsoever was observed in the locomotive which could have resulted in the Driver's failure to start the diesel engine. The fuel oil system and both regulating relief valves were found in good condition. The suction line from the fuel tank to the primary filter was without any obstruction. The fuel pump motor was in workimg order. There was no short circuit in the cables nor was there any abnormality in the electric-hydraulic governor.

Rolling down trials under similar conditions

44. Trials were conducted at Mailongdisa station on 4-5-69 with Diesel locomotive No. YDM/4 6117 attached with a similar 4-wheeler inspection carriage No. ERB 864 to get the idea of the speed which could have been attained at the site of accident. The engine and the coach coupled together were stabled at the same spot on line No. 2 of Mailongdisa station where the Down Trial Special involved in the accident was standing on 29-4-69 before it started rolling down. The following were the results obtained :

Details of Trial	*Results*
(1) The carriage hand brakes were applied while the loco brakes were free.	The train started rolling down and attained a speed of 20 Km. P.H. at the trailing point (325 meters ahead) in 1 minute and 45 seconds.
(2) Only Locomotive Hand Brakes were applied.	The train kept standing and did not roll down.
(3) All brakes released.	The train started rolling down fast and attained 35 Km. P.H. at the trailing points in 58 seconds and 50 Km. P.H. at the foot of the Home Signal. As this was considered to be the limit of safe speed, the train as not allowed to speed-up further and brought to a stop.
(4) After releasing all brakes when the train started rolling down, the hand brakes were applied.	The train could not be stopped.
(5) The brake cylinder pressure was slowly reduced when the train was stabled under identical conditions.	The rolling down started when the brake cylinder pressure was 0·2 kg/cm^2.

It was thus concluded that the hand brakes of the loco were not applied before the engine was shut down on the day of the accident as otherwise it could not have started rolling down. Presuming that when the train started rolling down there was some resistance on the brake blocks of the loco with brake cylinder pressure of 0·2 kg/cm^2 and it was less than the pressure applied by the hand brakes of the carriage, the speed of rolling train at the trailing points could be about 20 km. P.H. or a little faster. At the foot of the Home signal it may have been about 35 to 40 Km. P.H. and at the point of collision between 50 and 60 Km. P.H. From observations made on different diesel locomotives at New Gauhati shed on 10-5-69, it was seen that it took between 40 and 63 minutes for the pressure in the brake cylinder to come down to 0·2 Kg/Cm^2 and one could thus infer that the train must have been standing for about 50 minutes before it started rolling after the engine was shut down.

Sighting distance trial

45. A sighting distance trial was carried out to see from what distance the various Up Reception signals were visible to the Driver of an Up train and it was seen that the sighting distance board is visible from a distance of 135 meters short of it, the view being restricted due to curves and the cutting. The Up Outer signal is visible from 110 meters to the driver and 188 meters to the fireman. The Up Home signal is visible 170 meters to the driver and 200 meters to the fireman. It was also seen that the track between the spot of collision and the bridge is not visible either to the fireman or the driver till the cab reaches almost the point of collision.

V. DISCUSSION

Time of the accident

46. According to the Guard of the Passenger train the accident took place at about 16.40 hrs. One of the Travelling Ticket Examiners said that it was about 16.35 hrs. but he had not tallied his watch with the Control. The other Travelling Ticket Examiner said it was about 16.30 hrs. though he did not note the time by his watch. According to the Assistant Engineer and the Divisional Engineer who were on the train the accident took place at 16.40 hrs. and as the Divisional Engineer had noted the time immediately by his watch I have accepted this as correct.

The speed of the two Trains

47. According to Shri S.R. Singh, Officiating Station Master, Mailongdisa who was travelling on the Passenger train, the speed of the train was normal and he said it was about 15 Km. P.H. There is no evidence of allegation that the train was running fast. As it was negotiating a steep rising gradient I consider that the speed of 15 Km. P.H. for the Passenger train can be accepted as correct. As far as the Down Trial special is concerned it started rolling down from Mailongdisa station and from the evidence it can be reasonably concluded that the brakes of this train could not be applied. It was thus accelerating almost freely. From the experiments described in para 44 although the exact speed at the point of impact could not be determined one can see that it was over 50 Km.P.H. and may have been anything between 50 and 60 Km. P.H. The severity of the impact also confirms this view.

Sequence of Events

48. From the evidence and the trials carried out, it has been more or less established that the rolling down of the Down Trial Special occurred due to the engine having been shut down without taking any precautions to protect the train. Had even the hand brakes of the loco been applied before the engine was shut down, no rolling down could have taken place (as was observed during the trials). After rolling down had started the application of hand brakes could not have helped (proved by actual trials) but had the driver been able to start the engine, he could have built up the brake cylinder pressure and applied the brakes. The Bridge Chowkidar who saw the train rolling shortly before the collision, stated that the engine was not working at that time and described very graphically the frantic manner in which some one on the loco was trying to manipulate the controls. From this it appears that when the train started rolling down and the Driver and the Assistant ran for it and entered the cab, the driver was so excited and confused that he could not properly manipulate the controls and start the engine. He did not even blow the engine horn as is evident from the statement of so many witnesses who saw the train roll by.

49. Shri S. K. Bhattacharjee, Assistant Station Master, Mailongdisa, stated that he went and advised the Diesel Driver to shut down his engine as 201 Up was being despatched and there was no path for him to leave before 18.00. Hrs. and that if he shut down the engine, he (Bhattacharjee) would protect the train. According to him however, the driver told him that his engine was defective and he may have not been able to start it again if he shut it down. The driver has admitted that the Assistant Station Master did tell him to shut down his engine but he resisted stating that he would not do so on account of the steep gradient and he finally shut it down only on being assured that the train was properly protected with chains and gutkas. The Diesel Assistant did not remember any of this conversation. He said that he protested when the driver was shutting down the engine that he should not do so without giving a memo to the Station Master but the driver did not listen to him. From these statements it appears that each one has tried to hide the facts for which a blame might be laid on him. In any case, it is clear that some talks did take place between the Assistant Station

Master and the Driver about shutting down of the engine. I, however, cannot believe that the Assistant Station Master would have told the driver that the train was properly protected when actually the protection had been removed earlier after the engine was attached. (The statements of the two Pointsmen and the Carriage Khalasi are relevant in this connection paras 32, 33 and 34). I, therefore, feel that although the Assistant Station Master told the Driver to shut down the engine, at first he refused to do so, but later he shut it down, forgetting that the protection of the train had been removed. Or else he did not realise that the brakes that were binding hard at that time would gradually slacken. It must have been about 45 to 50 minutes that the train was standing after the engine was shut down when it started rolling down.

50. **It** was surprising why the driver did not make sure that the hand brakes of his loco had been applied before he shut down his engine. He has stated that he asked his Assistant to do so but I doubt his statement. In any case, he should have made sure that his assistant complied with these instructions and it was not difficult for him to do so when he himself was in the cab. I, therefore, have come to the conclusion that the rolling down of the Down Trial Special was purely on account of the Driver not ensuring that his train was protected before he shut down his engine while standing on a steep gradient.

51. Clear instructions in this regard have been laid down in Rule 12(*b*) Chapter XIV, of the Operating Manual, N.F. Railway, 1966 and were reiterated by District Mechanical Engineer, Lumding, vide his letter No. TL/1-D dated 1-6-68 to all loco Foremen. These instructions read as follows :—

> "*When standing on Gradients*—
>
> (*a*) The fact that after the brake has been applied the vacuum above the pistons gradually decreases, owing to leaks, and that in less than half an hour, the brakes may leak off together must not be forgotten, when train is brought to a stand on a gradient steeper than 1 in 150. In all such cases measures must be taken to guard against the possibility of a runaway. All hand brakes must be applied and, if the grade exceeds 1 in 100, adequate number of wheels must be spragged. When ready to start, proper vacuum must be created and the vacuum brake applied before the hand brakes are released and the sprags removed."

For the driver to state therefore, that the engine was shut down by him as the Assistant Station Master told him that the train was protected does not absolve him of the responsibility of ensuring himself of this important safety precaution.

Could the Passenger Train Driver have averted the accident

52. The Up reception signals of Mailongdisa had already been taken off for 201 Up and so the driver could not have suspected anything amiss. Assistant Station Master, Mailongdisa, stated that he put the signals back as soon as he saw the Down Trial Special rolling down into the Block Section. According to Shri S.R. Singh (para 39), who was travelling in the third bogie from the engine, he saw the outer signal in the 'ON' position when his bogie was passing it. Pointsman Man Bahadur saw the signals being raised when the engine of the Passenger train was just passing the Up outer signal. He could guess this from the smoke of the engine being aware of the location of the signal. It thus appears that the signals were raised in the face of this train just as the engine of the train passed it. The Driver of the train thus could not have been aware of the signals having been raised, specially when the Home Signal was not visible to him from that location. I, therefore, do not hold him responsible in any way for not having averted the accident. Even if he had seen the signal and stopped his train the accident could not have been averted as the rolling down train would still have collided with it.

The absence of a Slip Siding at Mailongdisa

53. Mailongdisa station yard is in a steep falling gradient of 1 in 37 and 1 in 43. According to the rules for the Opening of a Railway or Section of a Railway 'No station should be constructed nor should any siding join a Passenger line on steeper gradient than 1 in 260 except where it is unavoidable, and then too only with the previous sanction of the Railway Board obtained through the Government Inspector when a slip siding or other arrangement is made, sufficient to prevent accidents' Item 2 Note (*b*) Chapter II of the Schedule of Dimenisions for Metre Gauge, 1930 also reiterates this point. It is thus seen that there was an infringement of grade as far as Mailongdisa yard is concerned and a slip siding was considered essential. Had there been a slip siding, when the Down Trial Special started rolling down from the station it would have entered the slip siding instead of entering the already occupied block section and collision could have been saved. The absence of a slip siding at this station is, therefore, considered to have contributed in causing the accident.

54. The question of not providing the slip siding at this station was examined in detail. Lumding-Badarpur Hill Section of the Assam Bengal Railway was inspected by Mr. W. Chadwick, Senior Government Inspector of Railways in January 1904 and recommended for opening to Passenger traffic as per his report submitted to the Government *vide* his letter Genl. No. 2063 dated 8th February 1904. It is seen from the report that at the time of this inspection Mailongdisa was not provided as a station. In para 11 of the Report, the Senior Government Inspector of Railways has remarked as follows:—

> "11. *Traffic capacity of the Railway.* At present this is limited by the 11 miles of practically continuous 1 in 37 grade without a crossing place between Harangajao and Jatinga. There are also about 24 miles of nearly continuous 1 in 60 between Haflong and Moibong with only two blind siding passing places at Mahur and Doitahazar. It may probably be accepted that with the present arrangements and day-light running only the capacity will not be more than 4 trains a day each way. With double engine trains this amounts to 600 tons gross weight each way per day exclusive of engines. This is very little more than a single engine train per day can carry on the plain Sections. If the Hill Section continues to be maintained with a view to dealing with all the traffic to and from Section III it will undoubtedly be necessary to have many more crossing stations eventually. It seems a pity that in the original grading level stretches were not provided where possible, at suitable places, say, every four miles apart on the steep grades. The only alternative now left are a blind siding as at Mahur and Doitahazar, or a through loop on the same grade as the main line. The former arrangement causes considerable delay in passing trains, and the second arrangement even with trapping the lower end of the loop is much more dangerous than a level siding would have been, and will necessitate special traffic rules for working if adopted."

I made enquiries from the Railway to find out at what stage the station was opened as a crossing station but I have been informed that as the original records of the old Assam Bengal Railway were at Chittangong, no papers are available but from a list of infringements of Haflong District it appears Mailongdisa was opened some times between the years 1904 and 1913. On what considerations the slip siding was not provided at this station are not known.

Action taken by Railway to provide Slip Siding

55. In 1965 on receiving a proposal from the Railway for providing additional crossing stations on this section, my predecessor, Shri H.S. Hart recommended to the Railway Board that slip sidings should be provided on all stations which are situated on a grade steeper than 1 in 260 including Mailongdisa and Daotuhaja where similar conditions exist but are not provided with slip-sidings. As a result of this recommendation the Railway Board *vide* their letter No. 65/WDO/SD/14 dated 26-6-1965 decided that slip sidings should be provided

at all such stations. As a result of this directive, slip sidings have been provided at 10 stations, 3 on the North Bank and 7 on the South Bank (from 1965 upto the present time). For complying with the directive on the entire Railway a total of 40 spring loaded points were required and orders were placed on a Firm to manufacture these. The Firm, however, suggested an alternative proposal as a substitute for the spring loaded points and the matter was referred to the Railway Board for their approval. The D.G./R.D.S.O. in the meanwhile advised that Spring loaded points mechanism were being manufactured by the Northern Railway Signalling Workshop, Ghaziabad. Orders were accordingly placed on these Workshops for their manufacture. Out of the 40 ordered, however, only 9 sets were supplied. After several reminders, in April 1968, the Works Manager, Signalling Workshop, Ghaziabad expressed his inability to supply the balance requirement, due to the springs not being available in the open market. Since then efforts have been made by the Railway to obtain the supply from several other sources but without success. Finally, in view of the difficulties in procuring the coil springs for manufacture of the spring loaded points, the Railway Board in their letter No. 68/W3/SG/M/4 dated 16-10-68 (~~Annexure-I~~) decided that provision of spring loaded points should not be considered obligatory for catch and slip sidings, provided block instruments are suitably interlocked with the points along with a Bell Warning. The Railway is taking action to provide Slip Sidings in terms of this letter.

56. (*a*) It may be mentioned here that a collision of this type cannot be avoided even with the provision of Slip Sidings (without spring loaded points), proposed by the Railway Board, as when the Down Trial Special started rolling down, the signals, for the reception of the passenger train were already taken 'OFF' and thus the slip siding points would already have been set for the Main line. It has to be appreciated that the purpose of a slip siding is lost when the points are not set for the slip siding and in the case of slip sidings not provided with spring points, these have to be set for the main line in advance for taking off the signals for the reception of a train. The protection provided by the slip siding against the rolling down of the vehicles from the yard is thus destroyed at a time when it is required the most i.e. when the Block Section is occupied and a train is approaching the station. This protection can only be offered by providing spring loaded points in the slip sidings.

(*b*) The view of one of my colleagues, Shri H.S. Hart, Additional Commissioner of Railway Safety, Southern Circle, Bangalore, on the subject of spring loaded slip siding points is as follows:—

> 'Although in theory spring loaded slip siding points are desirable, difficulties arise with their maintenance. There is generally a slight gape in the points after sometime, and derailment over the same is not infrequent. Further, there have been a number of cases on the Southern Railway where these spring loaded slip siding points have fractured due to violent thrusts they receive by each pair of wheels when being passed over in a trailing direction. I, for one, therefore, consider that the recent directive of the Railway Board to the effect that spring loaded points for slip siding points should not be considered obligatory is a move in the right direction.'

(*c*) Shri P.B. Aibara, Commissioner of Railway Safety, in his Noting observed as follows:—'Considering the sequence of events in reference to points of time, a slip siding with spring loaded points further away from the trailing points, would, in all probability, have prevented this collision. However, if the passenger train had passed the spring loaded points and the rolling down of the diesel engine load taken place a few moments prior, the collision would still have occurred at the trailing points. I do not, however, consider it obligatory that slip sidings should be provided with spring loaded points.'

(*d*) I agree with the views expressed by Shri Hart that the spring loaded points present maintenance problems but do not consider them to be unsurmountable. I also agree with Shri Aibara that the accident would not have been avoided even with spring loaded points if the passenger train had passed them and the rolling down of the engine had started a few moments prior to the collision but in that case the speed of rolling down would have been very much slower and the effects of collision possibly much less severe.

In view of the above views, I agree that till such time that the maintenance problems are solved, the Railway Board's action in not making spring loaded points obligatory may be justified but the ideal will be to solve these problems at the earliest and make the spring loaded points an absolute requirement. After all such points are universally adopted on Railways in other countries of the world and do not seem to create any problems.

As long as spring loaded points are not made obligatory, it is suggested that where these are not provided, all lines joining the main line should be isolated at the falling end.

(*e*) The Railway Board, however, have not fully accepted this recommendation and desired that the Railways should ensure that at all such stations where there are slip sidings without spring points, no vehicle is allowed to stand on a line unless properly chained, spragged and secured and the slip siding points should not be set for the main line until the home signal is required to be lowered for the reception of a train.

I do not think that this would in any way improve the situation. Similar rules already exist and it was only to eliminate the human element and avoid an accident in the eventuality of the staff not following the rules rigidly that this recommendation was made. The main ground for not accepting the recommendation mentioned by the Railway Board is that they consider that the sand humps as suggested by the Commissioner of Railway Safety will be cumbersome and expensive as also at many places impracticable due to forbidding topography. The Board have not stated why such isolation cannot be provided by means of trap switch.

Even the suggestion that the slip siding points should be set only at the last moment would not entirely prevent the danger, apart from having to depend on the human element to observe these instructions and the objection of stopping a train on a steep rising gradient. There would be some time interval between the setting of slip siding points and the reception of the train and if during that interval, a vehicle rolled down it could result in a collision though the chances of such an occurrence will of course be less. The isolation provided by trap switch will be able to provide for this contingency also.

"It is hoped the Railway Board will reconsider the matter and agree to such isolation.

VI. CONCLUSION

Cause of the Accident

57. From all the evidence available, the inspections and observations at site and the trials carried out, I have come to the conclusion that the collision of Down Trial Special with No. 201 Up Badarpur-Lumding Passenger Train on 29-4-69 was caused by the Down Trial Special rolling down from Mailongdisa Station and entering the Harangajao-Mailongdisa Block Section, which was already occupied by the Passenger train, admitted on proper line clear. The Down Trial Special rolled down as the Driver Shri M.L. Roy of Diesel Loco hauling it, shut down the engine without ensuring that the train was properly protected while standing on a steep falling gradient. He thus contravened the provisions of Para 12(*b*) Chapter XIV of Northeast Frontier Railway Operating Manual.

58. The accident, however, would not have taken place, had a slip siding with spring loaded points been provided in Mailongdisa station yard, situated on a steep falling gradient, in contravention of the Rules for the Opening of a Railway or a Section of a Railway and an infringement in terms of item 2 Chapter II of the Schedule of Standard Dimensions for Metre Gauge 1930. The absence of such a siding was thus a contributory cause. The circumstances under which the slip siding was not provided have been detailed in paras 55 & 56.

Service Particulars

59. Shri Manindra Lal Roy, Driver Grade 'C' is 47 years old and has over 26 years service to his credit. He was originally appointed as Pointsman in October 1942 and was promoted later as Fireman in April 1945. He has been working as a Driver since December 1962 and has had a bad record, having been punished on twelve occasions of which five were for bad operation and seven for causing accidents (four partings, two derailments and one violation of speed).

Relief Arrangements

60. There was severe criticism in the local Press and by the Unions that there was delay in bringing the Medical Relief Van, which resulted in the death of the Driver. The circumstances in which the Medical Relief Van was detained have been described in para 18. Taking all the facts into consideration I am satisfied that no neglect took place in rendering relief to the injured and it was not possible to save the Driver due to factors beyond human control.

VII. RECOMMENDATIONS

61. The Railway Administration should conduct a survey of all station yards which are on infringing gradients where Railway Board's sanction for the infringement is not traceable and arrange to get fresh sanction to regularise matters. If as a result of this survey, there are any places where slip or catch sidings are considered necessary, immediate steps should be taken for these being provided as expeditiously as possible.

62. As pointed out in para 56, the Railway Board may consider the stipulation that where spring points are not provided for slip sidings, in terms of their letter No. 68/W3/SG/M/4 dated 16-10-68, all lines joining the main running line should be isolated on the falling end.

Calcutta, Yours faithfully,

dated 11/8/69 (Sd.) ARYA BHUSHAN

Additional Commissioner of Railway Safety, South Eastern Circle.

NOTE: The Commissioner of Railway Safety in his 'Note' on the accident commented as under on para. 62 of the report—

While isolation of the main line is obligatory in terms of G.R. 90(c) where trains are allowed to run through at a speed exceeding 50 Km. p.h., it is suggested that—

(i) in addition to providing slip sidings at the down hill ends of steeply yards as required by the extent rules, sand humps should be provided for other running lines at the down hill ends, irrespective of the speed authorised over the facing points; and incidentally;

(ii) the words "unattached to an engine or" in the last sentence of G.R. 90(e) should be deleted.

Railway Board have remarked as under on paras. 61, 62 of the report and C.R.S.' above noted recommendation

1. *Para. 61 of the report*: Accepted. Necessary action is being taken.

2. *Para. 62 of the report/C.R.S' comments thereon*: As regards isolation of the main running line from other connecting lines at the falling end, it is noted that while the ACRS has only suggested isolation for which a trap switch would have served the purpose, the C.R.S. has suggested that sand humps should be provided for the running lines. It may be mentioned in this connection that these sand humps would be virtually slip sidings which means that in addition to a slip siding on the main line, each of the running lines would have to be provided with sand humps. This would be cumbersome and expensive and may also be at many places impracticable due to forbidding topography.

As to the modification of G.R. 90(*c*) proposed by the C.R.S. it is considered too restrictive.

Instructions are, however, being issued that all such stations where a slip siding is provided the Railways must ensure that no vehicle is allowed to stand on a line unless properly chained, spragged and secured and where the slip siding is not provided with spring points, the slip siding points should not be set for the main line until the home signal is required to be lowered for the reception of a train.